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April 29, 1841.

Sir JOHN WILLIAM LUBBOCK, Bart., V.P. and Treasurer, in the Chair.

The Right Honourable Lord Monteagle, the Right Honourable Earl de Grey, the Right Honourable Lord Wrottesley, and Charles Woodward, Esq., were balloted for and duly elected into the Society.

The following papers were read, viz.—

1. “On the proportions of the prevailing Winds, the mean Temperature, and depth of Rain in the climate of London, computed through a cycle of eighteen years, or periods of the Moon’s Declination.” By Luke Howard, Esq., F.R.S., was resumed and concluded.

In this paper the author investigates the periodical variations of the winds, rain and temperature, corresponding to the conditions of the moon’s declination, in a manner similar to that he has already followed in the case of the barometrical variations, on a period of years extending from 1815 to 1832 inclusive. In each case he gives tables of the average quantities for each week, at the middle of which the moon is in the equator, or else has either attained its maximum north or south declination. He thus finds that a north-east wind is most promoted by the constant solar influence which causes it, when the moon is about the equator, going from north to south; that a south-east wind, in like manner, prevails most when the moon is proceeding to acquire a southern declination; that winds from the south and west blow more when the moon is in her mean degrees of declination, going either way, than with a full north or south declination; and that a north-west wind, the common summer and fair weather wind of the climate, affects, in like manner, the mean declination, in either direction, in preference to the north or south, and most when the moon is coming north.

He finds the average annual depth of rain, falling in the neighbourhood of London, is 25·17 inches.

From his observations on the temperature, he deduces the following conclusions:—1. That the pressure of an atmospheric tide, which attends the approach of the moon to these latitudes, raises the mean temperature 0·35 of a degree. 2. That the rarefaction under the moon in north declination lowers the temperature 0·13 of a degree. 3. That the northerly swell following the moon as she recedes to the south further cools the air 0·18 of a degree. 4. That this cold continues while the moon is away south, reducing the mean temperature yet lower by 0·04 of a degree.

2. “A new Method of solving Numerical Equations.” By Mr. Thomas Weddle, of Stamfordham. Communicated by S. H. Christie, Esq., M.A., Sec. R.S.

The object of this paper is to develop a new and remarkably simple method of approximating to the real roots of numerical equations, which possesses several important advantages. After describing the nature of the transformations which are subsequently